

WHAT IS CLAIMED IS:

1. A system for cataloguing electronic information, comprising:  
an electronic device that captures audio/video data corresponding to a  
5           photographic target, said audio/video data including a narration  
            provided by a narrator;  
a speech recognition engine that automatically performs a speech  
            recognition process upon said narration to generate labels that  
            correspond to respective subject matter locations in said  
10           audio/video data; and  
a label manager that manages a label mode for generating and storing  
            said labels, said label manager also controlling a label search  
            mode for utilizing said labels to locate said respective subject  
            matter locations in said audio/video data.  
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2. The system of claim 1 wherein said electronic device is implemented as  
an audio/video camcorder device.
3. The system of claim 1 wherein said speech recognition engine is  
20 configured in a simplified configuration that efficiently compares said  
narration with acoustic models to identify phone strings that represent said  
narration, said speech recognition engine referencing a compact dictionary to  
look up recognized vocabulary words that correspond to said phone strings,  
said speech recognition engine utilizing a limited set of recognition grammar  
25 to form said recognized vocabulary words into said labels that are supported  
by said speech recognition engine.
4. The system of claim 1 wherein said label manager initially instructs  
said electronic device to enter a real-time label mode for creating and storing  
30 said labels, said electronic device concurrently capturing said audio/video  
data and said narration after said label manager instructs said electronic  
device to enter said real-time label mode.

5. The system of claim 1 wherein said electronic device enters a real-time label mode in response to a verbal label-mode command from a system user, said verbal label-mode command being recognized and provided to said label  
5 manager by said speech recognition engine.

6. The system of claim 1 wherein said speech recognition engine automatically generates said labels as said electronic device captures said audio/video data and said narration.

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7. The system of claim 1 wherein a post processor performs a post-processing procedure upon said labels in a real-time label mode, said post-processing procedure including a validation procedure using one or more confidence measures to eliminate invalid labels that fail to satisfy pre-  
15 determined validation criteria.

8. The system of claim 1 wherein said label manager stores said labels during a real-time label mode, said labels being stored along with meta-information that associates each of said respective subject matter locations to  
20 a corresponding one of said labels.

9. The system of claim 1 wherein said electronic device initially captures said audio/video data and said narration prior to entering said label mode.

25 10. The system of claim 1 wherein said label manager instructs said electronic device to enter a non-real-time label mode for creating and storing said labels, said electronic device responsively retrieving and playing back said audio/video data and said narration.

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11. The system of claim 1 wherein said speech recognition engine automatically generates said labels by analyzing said audio/video data and said narration as said electronic device plays back said audio/video data and said narration.

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12. The system of claim 1 wherein a post processor performs a post-processing procedure upon said labels in a non-real-time label mode, said post-processing procedure including a validation procedure using one or more confidence measures to eliminate invalid labels that fail to satisfy pre-determined validation criteria.

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13. The system of claim 1 wherein said label manager coordinates a label validation procedure for validating said labels, said label manager generating a validation graphical user interface upon a display of said electronic device for a system user to interactively evaluate, delete, and edit said labels.

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14. The system of claim 1 wherein said label manager coordinates a label validation procedure for validating said labels in response to verbal validation commands from a system user, said verbal validation commands being recognized and provided to said label manager by said speech recognition engine.

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15. The system of claim 1 wherein said label manager stores said labels in a non-real-time label mode, said labels being stored along with meta-information that associates each of said respective subject matter locations to a corresponding one of said labels.

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16. The system of claim 1 wherein said label manager instructs said electronic device to enter said label search mode during which a system user interactively selects a search label for performing a label search procedure to locate a specific one of said respective subject matter locations corresponding to said search label.

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17. The system of claim 1 wherein said label manager generates a label-search GUI on a display of said electronic device, a system user viewing said labels and corresponding representative images from said audio/video data  
5 for selecting a search label.

18. The system of claim 1 wherein a system user selects a search label by issuing a verbal search-label command, said verbal search-label command being recognized and provided to said label manager by said speech  
10 recognition engine.

19. The system of claim 1 wherein said label manager instructs said electronic device to automatically locate and retrieve a specific one of said respective subject matter locations in response to a system user selecting a  
15 search label.

20. The system of claim 1 wherein said electronic device automatically plays back a specific retrieved one of said respective subject matter locations from said audio/video data for viewing by said system user.

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21. A method for cataloguing electronic information, comprising:  
capturing audio/video data corresponding to a photographic target by  
utilizing an electronic device, said audio/video data including a  
narration provided by a narrator;  
5 providing a speech recognition engine that automatically performs a  
speech recognition process upon said narration to generate text  
labels that correspond to respective subject matter locations in  
said audio/video data;  
managing a label mode for generating and storing said text labels by  
10 utilizing a label manager; and  
controlling a label search mode with said label manager, said label  
search mode utilizing said text labels to locate said respective  
subject matter locations in said audio/video data.
- 15 22. The method of claim 21 wherein said electronic device is implemented  
as an audio/video camcorder device.
23. The method of claim 21 wherein said speech recognition engine is  
configured in a simplified configuration that efficiently compares said  
20 narration with acoustic models to identify phone strings that represent said  
narration, said speech recognition engine referencing a compact dictionary to  
look up recognized vocabulary words that correspond to said phone strings,  
said speech recognition engine utilizing a limited set of recognition grammar  
to form said recognized vocabulary words into said text labels that are  
25 supported by said speech recognition engine.
24. The method of claim 21 wherein said label manager initially instructs  
said electronic device to enter a real-time label mode for creating and storing  
said text labels, said electronic device concurrently capturing said  
30 audio/video data and said narration after said label manager instructs said  
electronic device to enter said real-time label mode.

25. The method of claim 21 wherein said electronic device enters a real-time label mode in response to a verbal label-mode command from a system user, said verbal label-mode command being recognized and provided to said label manager by said speech recognition engine.

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26. The method of claim 21 wherein said speech recognition engine automatically generates said text labels as said electronic device captures said audio/video data and said narration.

10 27. The method of claim 21 wherein a post processor performs a post-processing procedure upon said text labels in a real-time label mode, said post-processing procedure including a validation procedure using one or more confidence measures to eliminate invalid text labels that fail to satisfy pre-determined validation criteria.

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28. The method of claim 21 wherein said label manager stores said text labels during a real-time label mode, said text labels being stored along with meta-information that associates each of said respective subject matter locations to a corresponding one of said text labels.

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29. The method of claim 21 wherein said electronic device initially captures said audio/video data and said narration prior to entering said label mode.

10. The method of claim 21 wherein said label manager instructs said  
25 electronic device to enter a non-real-time label mode for creating and storing said text labels, said electronic device responsively retrieving and playing back said audio/video data and said narration.

31. The method of claim 21 wherein said speech recognition engine  
30 automatically generates said text labels by analyzing said audio/video data and said narration as said electronic device plays back said audio/video data and said narration.

32. The method of claim 21 wherein a post processor performs a post-processing procedure upon said text labels in a non-real-time label mode, said post-processing procedure including a validation procedure using one or  
5 more confidence measures to eliminate invalid text labels that fail to satisfy pre-determined validation criteria.

33. The method of claim 21 wherein said label manager coordinates a label validation procedure for validating said text labels, said label manager  
10 generating a validation graphical user interface upon a display of said electronic device for a system user to interactively evaluate, delete, and edit said text labels.

34. The method of claim 21 wherein said label manager coordinates a label  
15 validation procedure for validating said text labels in response to verbal validation commands from a system user, said verbal validation commands being recognized and provided to said label manager by said speech recognition engine.

20 35. The method of claim 21 wherein said label manager stores said text labels in a non-real-time label mode, said text labels being stored along with meta-information that associates each of said respective subject matter locations to a corresponding one of said text labels.

25 36. The method of claim 21 wherein said label manager instructs said electronic device to enter said label search mode during which a system user interactively selects a search label for performing a label search procedure to locate a specific one of said respective subject matter locations corresponding to said search label.

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37. The method of claim 21 wherein said label manager generates a label-search GUI on a display of said electronic device, a system user viewing said text labels and corresponding representative images from said audio/video data for selecting a search label.

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38. The method of claim 21 wherein a system user selects a search label by issuing a verbal search-label command, said verbal search-label command being recognized and provided to said label manager by said speech recognition engine.

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39. The method of claim 21 wherein said label manager instructs said electronic device to automatically locate and retrieve a specific one of said respective subject matter locations in response to a system user selecting a search label.

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40. The method of claim 21 wherein said electronic device automatically plays back a specific retrieved one of said respective subject matter locations from said audio/video data for viewing by said system user.

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41. A computer-readable medium comprising program instructions for cataloguing electronic information by:

capturing audio/video data corresponding to a photographic target by utilizing an electronic device, said audio/video data including a narration provided by a narrator;

providing a speech recognition engine that automatically performs a speech recognition process upon said narration to generate text labels that correspond to respective subject matter locations in said audio/video data;

managing a label mode for generating and storing said text labels by utilizing a label manager; and

controlling a label search mode with said label manager, said label search mode utilizing said text labels to locate said respective subject matter locations in said audio/video data.

42. A system for cataloguing electronic information, comprising:

means for capturing audio/video data corresponding to a photographic target, said audio/video data including a narration provided by a narrator;

means for automatically performing a speech recognition process upon said narration to generate text labels that correspond to respective subject matter locations in said audio/video data;

means for managing a label mode to generate and store said text labels; and

means for controlling a label search mode that utilizes said text labels to locate said respective subject matter locations in said audio/video data.

43. A system for cataloguing electronic information, comprising:  
an imaging device that captures audio/video data corresponding to  
selected photographic targets, said audio/video data including a  
verbal narration provided by a narrator;  
5 a speech recognition engine that automatically performs a speech  
recognition process upon said narration to generate text labels  
that are based upon said narration, said text labels  
corresponding to respective subject matter locations in said  
audio/video data, said text labels including abbreviated word  
10 sequences that identify said selected photographic targets; and  
a label manager that manages a label mode during which said text  
labels are generated by said speech recognition engine, said label  
manager also storing said text labels during said label mode, said  
text labels being stored along with meta-information that  
15 associates said respective subject matter locations to  
corresponding ones of said text labels, said label manager also  
controlling a label search mode for utilizing said text labels to  
locate specific corresponding ones of said respective subject  
matter locations from said audio/video data, said label manager  
20 providing a label-search user interface upon a display of said  
imaging device for displaying said text labels and corresponding  
visual images of said respective subject matter locations from  
said audio/video data, a system user interactively choosing a  
selected text label by utilizing said label-search user interface,  
25 said imaging device responsively displaying said audio/video  
data from a selected subject matter location corresponding only  
to said selected text label.

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44. A system for cataloguing electronic information, comprising:  
an electronic device that captures said electronic information that  
includes verbal narration data;  
a speech recognition engine that analyzes said electronic information to  
5 generate labels that correspond to respective subject matter  
locations in said electronic information; and  
a label manager that utilizes said labels to locate said respective  
subject matter locations in said electronic information.

10 45. A system for cataloguing electronic information, comprising:  
an electronic device that captures audio/video data corresponding to a  
photographic target, said audio/video data including a narration  
provided by a narrator; and  
a speech recognition engine that automatically performs a speech  
15 recognition process upon said audio/video data to generate  
labels that correspond to respective subject matter locations in  
said audio/video data.

46. A system for cataloguing electronic information, comprising:  
20 an electronic device that captures audio/video data corresponding to a  
photographic target, said audio/video data including a narration  
provided by a narrator; and  
a label manager that controls a label search mode for utilizing labels  
derived from said narration to locate corresponding respective  
25 subject matter locations in said audio/video data.

47. An electronic cataloguing system implemented by:  
capturing electronic data which includes a narration provided by a  
narrator;  
performing a speech recognition process upon said electronic data to  
5 automatically generate labels that correspond to respective  
subject matter locations in said electronic data; and  
utilizing said labels to locate said respective subject matter locations in  
said electronic data.

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